

REMARKS

5 The Applicants respectfully request further examination and reconsideration in view of the amendments set forth above and the arguments set forth below. Claims 1-14, 17-24 and 41-49 were pending in this application. Within the previous Office Action, Claims 1-14, 17-24 and 41-49 have all been rejected. By way of the above amendment, Claims 1, 11, 17 and 41 been amended and new Claims 50 and 51 have been added. Accordingly, Claims 1-14, 17-24 and 41-51 are now pending in this application.

10 **Rejections Under 35 U.S.C. § 112**

Applicants acknowledge that the rejections of Claims 1-14 under 35 U.S.C. 112, first paragraph, cited in the previous Office Action have been withdrawn.

Rejections Under 35 U.S.C. § 102

15 Within the Office Action, Claims 1, 11, 17 and 41 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,125,922 to Dwyer (hereafter "Dwyer"). Specifically, it is stated within the Office Action that Dwyer teaches two lasers whose outputs are combined at a beam splitter. [Dwyer: Figure 3 and Column 4, lines 12-22]

20 Regarding Claim 17, the Office Action appears to suggest that the function of the control system is not clearly stated in relation to the other elements that are also recited in the Claim 17 and, therefore, the recitation of the control system is afforded little weight in determining the patentability of this claim.

25 Regarding Claim 41, it is stated within the Office Action that Dwyer teaches means to alternate between pluses of a first set and a second set of pulses, presumably by manually turning on and of off selected lasers. [Dwyer; Column 4, lines 20-22]

Within the Office Action, it is further stated that the Applicant's arguments have been presented without pointing to specific structural features that are lacking in Dwyer and this Office Action has been made final.

30 Applicants respectfully traverse these rejections for the following reason. The claims pending in the present application recite features and functions that are distinct and patentable over the teachings of Dwyer. Dwyer teaches an apparatus with two lasers producing two different wavelengths. An operator can choose which wavelength is selected by turning on the appropriate laser and shutting off the appropriate laser. However, it not feasible to alternate

between pulses or sets of pulses in the time frame required to perform a coagulation or ablation operation on a target area tissue as recited in the claims of the present invention. The present invention is directed to a laser system that alternates between pulses of two lasers having a wavelength. This enables the laser system of the present invention to perform any number of selectable operations, most notable which are coagulation and ablation to a target area of tissue, without requiring multiple laser systems. Dwyer clearly does not teach these features.

Nevertheless in order to further advance the prosecution of this application, Claims 1, 11, 17 and 41 have now been amended to further define these features. Claim 17 has also been amended to recite specific functions of the control system in relation to other elements claimed.

Specifically, the independent Claim 1 is directed to a medical laser delivery apparatus for delivering a series of laser pulses having a wavelength, the medical laser delivery apparatus including non-ablative laser pulses for directing to an area of tissue to be treated and generating a region of coagulation to a controllable coagulation depth under a surface of the area of tissue. The apparatus comprises a laser source for generating the series of laser pulses including the non-ablative laser pulses to be delivered to the area of tissue to be treated in order to raise a temperature at the surface of the area of tissue to be treated to a temperature sufficient to generate coagulation at the coagulation depth when the laser source is in a coagulation mode. The laser source comprises two or more lasers that combine the series of laser pulses from the two or more lasers. As discussed above, Dwyer fails to teach a medical laser delivery apparatus which has a laser source with two or more lasers having a wavelength that are combined to form a single output to generate conditions for ablation and coagulation. For at least these reasons, the independent Claim 1 is allowable over the teachings of Dwyer.

The independent Claim 11 is directed to a medical laser comprising a laser source having two or more pulsed lasers for generating pulses of laser light having a wavelength, wherein a series of the pulses of laser light are combined from the laser source for generating a single laser output having a predetermined absorption, wherein the predetermined absorption forms a predetermined coagulation depth and a laser control system coupled to the laser source for controlling the laser source to deliver the laser output to a target area. As discussed above, Dwyer fails to teach a medical laser delivery apparatus which has a laser source with two or more lasers having a wavelength that are combined to form a single output to generate conditions for ablation and coagulation. For at least these reasons, the independent Claim 11 is allowable over the teachings of Dwyer.

The independent Claim 17 is directed to a medical laser delivery apparatus for treating an area of tissue, the laser delivery apparatus comprising source having a first laser and a second laser each of which generates laser pulses having a wavelength, the laser source being configured to combine laser pulses of the first laser and the second laser to form a single laser output by a combining apparatus for delivering a series of laser pulses each having a strength and a duration to ablate or coagulate the area of tissue being treated, a laser delivery system coupled to the laser source for delivering the laser pulses from the laser source to the area of tissue being treated, and a control system for selecting the rate and fluence of the laser pulses, the control system coupled to the laser source for controlling generation of the laser pulses from the laser source, wherein the laser source operates in both an ablation mode and a coagulation mode such that when in the ablation mode, the strength and duration of the laser pulses are sufficient to ablate tissue at the area of tissue being treated to a controllable ablation depth and when in the coagulation mode, the strength and duration of the laser pulses are sufficient to generate a coagulation region having a controllable coagulation depth within the tissue remaining at the area of tissue being treated without ablating any tissue. As discussed above, Dwyer fails to teach a medical laser delivery apparatus which has a laser source with two or more lasers having a wavelength that are combined to form a single output to generate conditions for ablation and coagulation. For at least these reasons, the independent Claim 17 is allowable over the teachings of Dwyer.

The independent Claim 41 is directed to a dual mode medical laser system, for sequentially ablating and coagulating a region of target tissue with ablation laser pulses followed by coagulation laser pulses. The dual mode medical laser system comprises a laser source comprising a first laser and a second laser for generating a first set of laser pulses and a second set of laser pulses at a wavelength, means to combine pulses of the first set of laser pulses and the second set of laser pulses to provide a single laser output, the single laser output being capable of coagulating tissue with the system in a coagulation mode and ablating tissue with the system in an ablating mode and means to direct the single laser output to the region of the target tissue. As discussed above, Dwyer fails to teach a system capable of coagulating tissue with the system in a coagulation mode, and ablating tissue with the system in ablation mode which combines laser pulses having a wavelength from multiple lasers to generate a single laser output. For at least these reasons, the independent Claim 41 is allowable over the teachings of Dwyer.

Rejections Under 35 U.S.C. § 103

Within the Office Action, Claims 1-3, 8, 41, 43, 44 and 47-49 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,672,969 to Dew (hereinafter "Dew") in combination with, U.S. Patent No. 5,620,435 to Belkin et al. (hereinafter "Belkin") and, the article entitled "Selective Photothermolysis: Precise Microsurgery by Selective Absorption of Pulsed Radiation" by R. Rox Anderson and John A. Parrish (hereinafter "Anderson et al.").

The teachings of Dew, Belkin et al. and Anderson et al. have all been fully characterized in previous communications. In summary, neither Dew, Belkin, Anderson et al., nor their combination teach or suggest combining laser pulses from a laser source comprising two or more lasers having a wavelength to generate a single laser output for coagulating or ablating tissue. These features as well as other distinguishing features are recited in the independent Claims 1 and 41. For at least these reasons, the independent Claims 1 and 41 are allowable over the teachings of Dew, Belkin et al., Anderson et al. and their combination.

Claims 2, 3 and 8 are all dependent on the independent Claim 1. As described above, the independent Claim 1 is allowable over the teachings of Dew, Belkin et al., Anderson et al. and their combination. Accordingly, Claims 2, 3 and 8 are all also allowable as being dependent upon an allowable base claim.

Claims 43, 44 and 47-49 are all dependent on the independent Claim 41. As described above, the independent Claim 41 is allowable over the teachings of Dew, Belkin et al., Anderson et al. and their combination. Accordingly, Claims 43, 44 and 47-49 are also all allowable as being dependent upon an allowable base claim.

Within the Office Action, Claims 1, 6, 7, 11-13, 17, 18, 41 and 44-46 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,098,426 to Sklar et al. (hereinafter "Sklar") in combination with Dwyer.

Sklar has been fully characterized in previous communications. In summary, neither Sklar, Dwyer nor their combination teaches or suggests combining laser pulses from a laser source comprising two or more lasers having a wavelength to generate a single laser output for coagulating or ablating tissue. These features, as well as other distinguishing features, are recited in the independent Claims 1, 11, 17 and 41. For at least these reasons, the independent Claims 1, 11, 17 and 41 are allowable over the teachings of Sklar, Dwyer and their combination.

Claims 6 and 7 are both dependent on the independent Claim 1. As described above, the independent Claim 1 is allowable over the teachings of Sklar, Dwyer and their combination.

Accordingly, Claims 6 and 7 are both also allowable as being dependent upon an allowable base claim.

Claims 12 and 13 are both dependent on the independent Claim 11. As described above, the independent Claim 11 is allowable over the teachings of Sklar, Dwyer and their combination. Accordingly, Claims 12 and 13 are also both allowable as being dependent upon an allowable base claim.

Claim 18 is dependent on the independent Claim 17. As described above, the independent Claim 17 is allowable over the teachings of Sklar, Dwyer and their combination. Accordingly, Claim 18 is also allowable as being dependent upon an allowable base claim.

Claims 44-46 are all dependent on the independent Claim 41. As described above, the independent Claim 41 is allowable over the teachings of Sklar, Dwyer and their combination. Accordingly, Claims 44-46 are also all allowable as being dependent upon an allowable base claim.

Within the Office Action, Claims 4, 9, 10 and 42 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Dew in combination with Anderson et al., Belkin et al. and further in view of U.S. Patent No. 5,938,657 to Assa et al. (hereafter "Assa et al.").

The teachings of Assa have been fully characterized previously. Neither Dew, Anderson, Belkin et al., Assa et al. nor their combination teaches or suggests combining laser pulses from a laser source comprising two or more lasers having a wavelength to generate a single laser output for coagulating or ablating tissue such as recited in the independent Claims 1 and 41.

Claims 4, 9, and 10 are all dependent on the independent Claim 1, and Claim 42 is dependent on the independent Claim 41. As described above, the independent Claims 1 and 41 are both allowable over the teachings Dew, Belkin, Anderson et al. and their combination. Accordingly, Claims 4, 9, 10 and 41 are also all allowable as being dependent upon allowable base claims.

Within the Office Action, Claims 14 and 19-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Dew in combination with Anderson et al. and Belkin et al. and further in view of Sklar.

As previously described neither Anderson et al., Belkin et al., Sklar nor their combination teach or suggest combining laser pulses from a laser source comprising two or more lasers having a wavelength to generate a single laser output for coagulating or ablating tissue such as recited in the independent Claim 11.

Claims 14 and 19-22 are all dependent on the independent Claim 11. As described above the independent Claim 11 is allowable over the teaching of Sklar, Dwyer and their combination. Accordingly, Claims 14 and 19-22 are also all allowable as being dependent on an allowable base claim.

5 Within the Office Action, Claims 23 and 24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Dew in combination with Anderson et al., Belkin et al., Sklar and further in view of Assa et al.

10 Again, neither Dew, Anderson et al., Belkin et al., Sklar, Assa et al., nor their combination teaches or suggests combining laser pulses from a laser source comprising two or more lasers having a wavelength to generate a single laser output for coagulating or ablating tissue such as recited in the independent Claim 17.

15 Claims 23 and 24 are both dependent on the independent Claim 17. As described above, the independent Claim 17 is allowable over the teachings of Sklar, Dwyer and their combination. Accordingly, Claims 23 and 24 are both also allowable as being dependent upon an allowable base claim.

New Claims:

20 By way of the above amendment, new Claims 50 and 51 have been added. The new Claims 50 and 51 recite the limitations of Claims 1 and 11, respectively. Claims 50 and 51 further recite that pulses from multiple laser outputs are combined into a single laser output with a galvanometer that switches between the multiple laser outputs. These features find support in the original specification as originally filed at least at page 7, lines 13-15.

25 Lastly, the Applicants contend the issuance of a Final Office Action was premature. In a response to the previous Office Action, Applicant filed an RCE with amendments to the claims, which included limitations which were not addressed in any previous Office Action and which Applicants contend could not be properly rejected on the art made of record. Accordingly, the Applicants respectfully request that the above amendments be entered and the Finality of the Office Action be withdrawn.

For the reasons given above, Applicants respectfully submit that the claims are in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, he is encouraged to call the undersigned at (408) 530-9700 to discuss them so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: July 14, 2004

By: Jonathan O. Owens

Jonathan O. Owens

Reg. No.: 37,902

Attorneys for Applicant

CERTIFICATE OF MAILING (37 CFR § 1.8(a))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450

HAVERSTOCK & OWENS LLP

Date: 7-14-04 By: [Signature]